

THE SCIENTOMETRIC PORTRAIT OF PROF.S. R. NIRANJANA

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ABSTRACT

The present study attempts to highlight the various research attributes of Prof. S.R. Niranjana, the great Indian Biotechnologist, Dr. Raja Ramanna Awardee, Fellow of Danish International Development Agency (DANIDA), Denmark, Fellow of National Academy of Agricultural Sciences, Fellow of National Academy of Biological Sciences and Fellow of Indian Society of Mycology and Plant Pathology (FISMPP), wherein he published 168 research articles. As per Web of Science, his h-index is 15 and received 691 citations, according to Scopus database, h-index is 17 and received 804 citations and as per the Google citations, his h-index is 23 and received 1935 citations for his scholarly research work. Most active researchers in the research group of Prof. S.R. Niranjana were H.S. Prakash, S Chandra Nayak, H.S. Shetty, P. Hariprasad and A.C. Udayashankar. This study is an attempt to showcase the research productivity of Prof. S.R. Niranjana as a role model for future researchers.

KEYWORDS: Research Temper, Scientific Productivity, S.R. Niranjana, Biotechnology, Pathology, Seed Pathology & Applied Botany

Received: Oct 29, 2018; **Accepted:** Nov 19, 2018; **Published:** Nov 01, 2018; **Paper Id.:** IJLSRDEC20182

INTRODUCTION

Publish or Perish has been the order of the current information industry for excellence and visibility of any academic and research institution. Hence, the concept of Scientometrics has emerged as a one of the techniques for documenting, collecting works of eminent scientists and researcher's. Eugene Garfield, father of scientometrics, came up with the idea of citation-based searching in the early 1950s and it is followed by releasing three unique databases, for the Sciences, Social Sciences, and Arts & Humanities, as well as a yearly Journal Citations Report for the Sciences and the Social Sciences. It took more than four decades before other database publishers started to add the cited references to their indexing/abstracting records. The Google Scholar database has been built on Garfield's original idea, and broadly idolized as a free database. Garfield's ultimate response among others was to release a database to allow the users to look up by author names or identification code. Jacso, P. (2018) paints a scientometric portrait of Garfield as a tribute, demonstrating and commenting on how many times his oeuvre was cited by, in which sources processed for the Citation Indexes.

The Scientometrics studies enable the young scientists to emulate and thereby improve the research output of the individual, institute being served and help the country in moving towards better accreditation/ranking in the world map and these studies occupy significance in the context of NAAC, NBA, NIRF etc., ranking. In India, Kalyane and Kalyane (1993) first used the phrase 'Scientometric Portrait' to carry out bio-bibliometric studies on scientists, later Kademani B.S. on "Scientometric Portrait of Nobel Laureate Lenald H. Hartwell" and this research tempo continued.

Sinha, A. K (2017) presented a scientometric portrait of Bharat Ratna Amartya Sen, also a Nobel laureate in Economic Sciences, based on the books published by him. During the period 1960-2015, Sen produced 43 books either singly or collaboratively. Jean Dreze is Sen's most prominent collaborator. The highest number of books (27.92%) was published during 2000-2009. Although most of his books were published in English, a number of his books have been translated into several Indian and foreign languages. Most of his books (20.94%) are on social problems, followed by politics and government (13.95%) and financial economics (11.63%). Gopal Prasad Dixit & Suresh Jange (2018) studied on Scientometric Portrait of Prof. Gajanan R. Naik.

The h-index of Scopus is used as an important and practical instrument in analysing the scientific level of researchers. In this research, 6 effective items including author's order, quality of publication source, quality of citation source, type of citation, research scopes of the authors and the regular scope of citation source were considered in order to increase the accuracy and equity of research and also the optimization of scientometrics. The analysis of the results showed that by applying the effective factors, the h-index of authors was obtained on the basis of real and scientific criteria; thus, the mean of all effective factors is introduced as modified h-index (Negahdary, M., Jafarzadeh, M., Rahimi, G., Naziri, M., & Negahdary, A. 2018). Bebi, & Kumar, S. (2018) examined the research output of women faculty in physics in 10 central universities in India. The results showed that women authors acted as corresponding author more as compared to first or both first and corresponding authors. University of Delhi topped the rank in terms of highest women contributors and papers. The ratio of women authors per article was found 0.3. Journal of Applied Physics was found to be the most preferred journal by women authors in Physics.

OBJECTIVES OF THE STUDY

The main objective of the study is to find out the different forms of scholarly research productivity of Prof. S. R. Niranjana.

- To find out year-wise growth of publications
- To identify citation productivity.
- To identify authorship pattern in his research communications
- To find out core collaborators of Prof. S. R. Niranjana his research career and
- To identify core communication channels preferred by Prof. S. R. Niranjana.

METHODOLOGY

Scientific publications are the best source to measure the contributions of an individual scientist and therefore the bibliographic data of research publications of Prof. S. R. Niranjana for the study were downloaded from <https://scholar.google.co.in/citations?user=WMOA0iwAAAAJ&hl=en>, citations details have taken from Web of Science, Scopus & Google Citations. The data is then transferred to spread sheet to refine and elaborate the desired elements of each record for easy segregation and identification. The present study is limited to 152 publications. A normal count procedure was followed.

RESULTS AND DISCUSSIONS

Forms of Scholarly Research Productivity

Prof. S.R. Niranjana has published 168 research papers in his professional career (with high citation index) types of publications include 152 journal articles (90.4 percent), 04 patents (2.3 percent), 01 book (01 percent), 07 Technical Bulletin (4.1 percent) and 04 Souvenir (2.2 percent) (Table 1 & Figure 1)

Table 1

Forms	No. of Papers	Percentage
Scientific Journal Article	152	90.4
Patents	04	2.3
Books	01	01
Technical Bulletin	07	4.1
Souvenir	04	2.2
Total	168	100 %
H Index:15 (Source: Web of Science) H Index: 17 (Source: Scopus) H-index: 23 (Source: Google Citations)		Total Citations: 691 (Source: Web of Science) Total Citations: 804 (Source: Scopus) Total Citations : 1935 (Source: Google Citations)

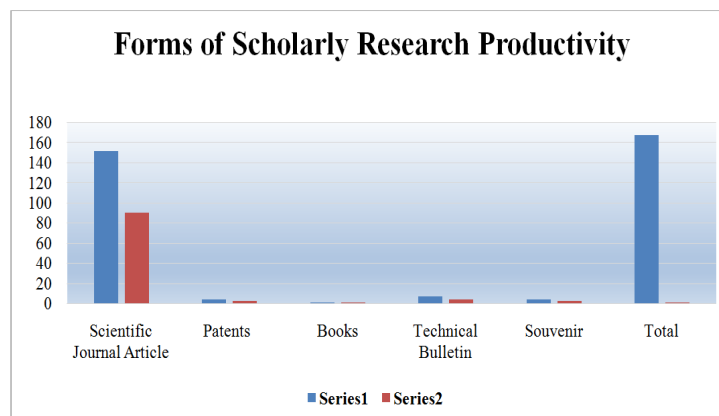


Figure 1

Growth of Scientific Articles

Prof. S. R. Niranjana's most productive years for publishing scientific articles in refereed journals were 2011-2015, 2006--2010 and 2001-2005 in which he had published 119 papers(78 percent) (Figure 2). During these years he had published minimum 10 papers in each year in peer reviewed journals. He had published only 1 paper in 1970-1975.

Table 2

Year	No. of Journal Articles	Percentage
1970-1975	02	01
1991-1995	04	03
1996-2000	10	07
2001-2005	20	13
2006-2010	43	28
2011-2015	56	37
2016-2018	17	11
Total	152	100%

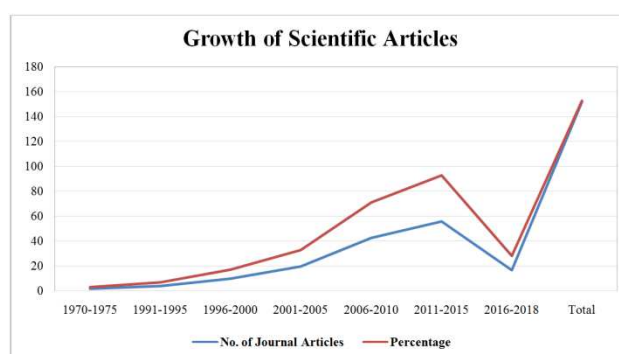


Figure 1

Citation Productivity

As per Web of Science database, Prof. S. R. Niranjana has received a total citation in 691 for his scholarly works during 2016, he received his last citations and then during 2017 and 2018 with H-Index of 15 (Figure 3)

Table 3

Web of Science	
Results found	57
Sum of the Times Cited	691
Average Citations per Item	12.12
h-index	15

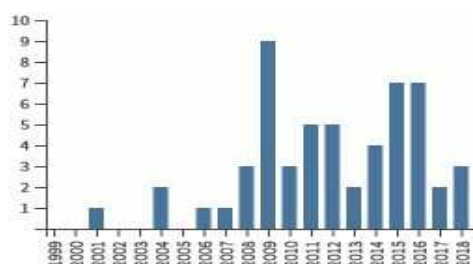


Figure 3: Year Wise Citations (Total N=691) Web of Science

As per Scopus database, Prof. S. R. Niranjana has received a total citation in 804 for his scholarly works during 2016, he received his last citations and then during 2017 and 2018 with H-Index of 17 (Figure 4)

Table 4

Scopus Data	
Author ID	6601979651
Publications	70
Total citations	804
h-index	17

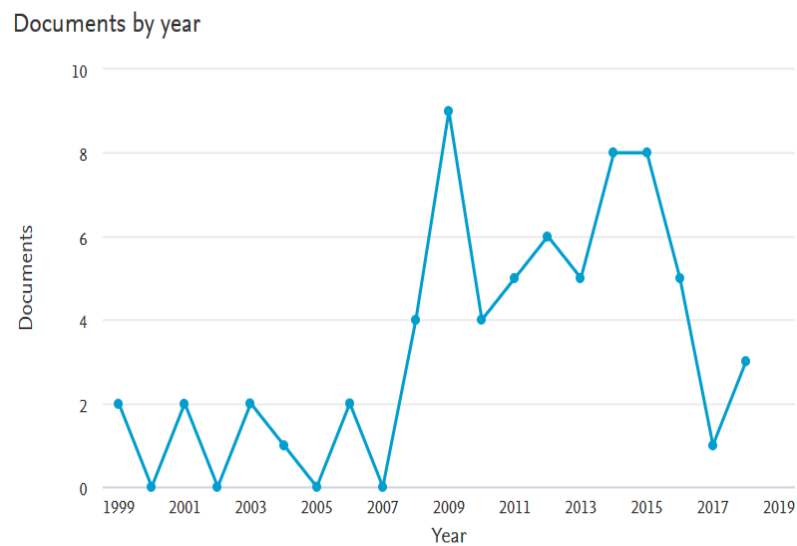


Figure 4: Year Wise Citations (Total No = 804) Scopus

As per Google Citations Prof. S. R. Niranjana has received a total citation of 1935 for his scholarly works during 2016, he has received his last citations and then during 2017 and 2018 with H-Index of 23 (Figure 4)

Table 5

Google Citations		
Citations	1934	1568
h-index	23	22
i10-index	49	43

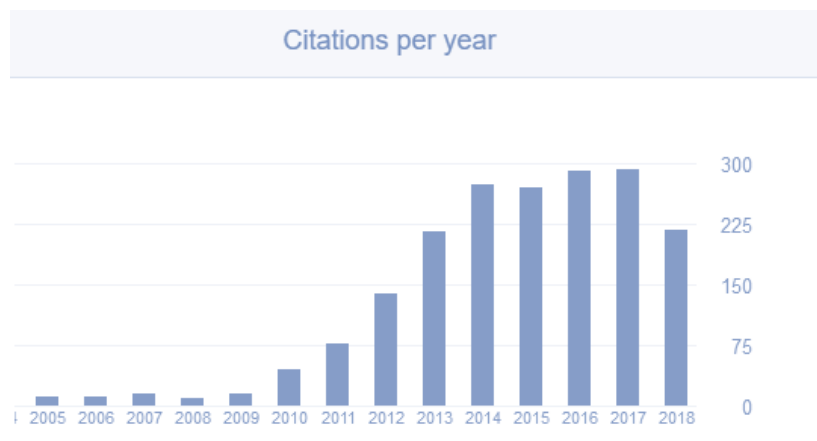


Figure 5: Year Wise Citations (Total No = 1934) Google Citations

Authorship Pattern of Journal Articles

Table 5 depicts the authorship pattern of Prof. S. R. Niranjana in publishing journal articles. He has published total 152 articles in which he published 04 articles as individual, 07 articles with 1 collaborator, 17 articles with 2 collaborators, 43 articles with 3 collaborators, 23 articles with 4 collaborators and 58 articles with more than five collaborators. Thus, the collaborated research is found to be dominant with more than five authors followed by four authors (Figure 6)

Table 6

Authorship	Number of Articles	Percentage
Single Author	04	2.6
Double Author	07	4.8
Three Author	17	11.2
Four Author	43	28.2
Five Author	23	15.1
More than five Author	58	38.1
Total	152	100%

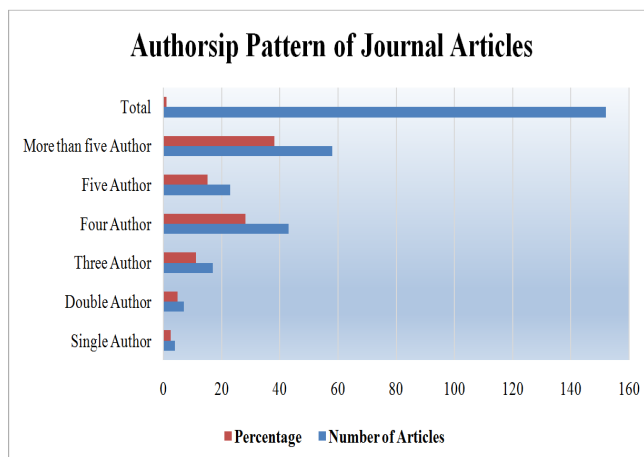


Figure 6

Top Five (5) Collaborators in Journal Article Publications

Table 6 shows most prolific authors associated with Prof. S. R. Niranjana in journal article publications. The most active authors were H.S. Prakash, who topped the list with 36 papers followed by S. Chandra Nayak with 31 papers, H.S. Shetty with 28 papers, P. Hariprasad with 22 papers, and A.C. Udayashankar with 22 papers. (Figure 6)

Table 7

Sl. No.	Author	II	III	IV	V	VI	More than Six	Total
1	H. S. Prakash	-	1	17	9	1	8	36
2	S Chandra Nayak	-	4	12	5	1	11	31
3	H. S. Shetty	2	6	8	9	2	1	28
4	P. Hariprasad	3	4	6	6	-	3	22
5	A.C. Udayashankar	-	2	6	-	-	14	22
Total								139

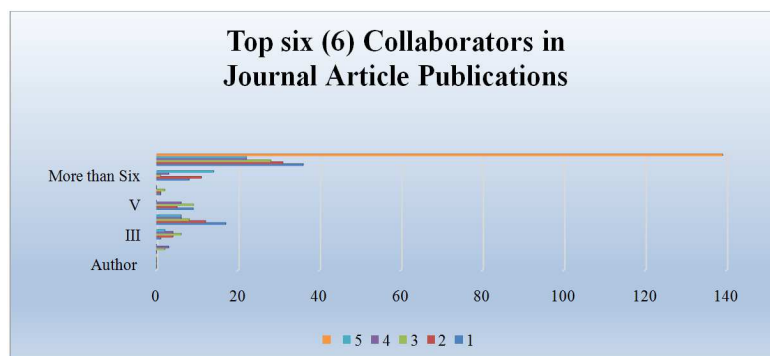


Figure 7

Top Five (5) Channels Preferred for Publishing Journal Articles

Prof. S. R. Niranjana used 168 different scientific channels that include 152 journals (90.4 percent) and 17 in the form of technical bulletin (4.1 percent). Table 8 shows top 21 channels preferred by Prof. S. R. Niranjana. His top five preferred journals for publishing research papers were Archives of phytopathology and plant protection tops the rank list with 06 papers followed by Biological Control 05 papers, Journal of Mycology and Plant Pathology 04 papers, Journal of Plant Interactions 03 papers and African Journal of Biotechnology 3 papers.

Table 8

SL. No.	Title	No. of Papers
1	Archives of phytopathology and plant protection	06
2	Biological Control	05
3	Journal of Mycology and Plant Pathology	04
4	Journal of plant interactions	03
5	African journal of biotechnology	03



Figure 8

CONCLUSIONS

The strength of a researcher on par excellence could be known from the above data analysis and inferences. Prof. S.R. Niranjana, is instrumental in establishing the Asian Seed, Health Centre by transferring the Seed Pathology Courses from DGISP, Denmark to Department of Studies in Applied Botany, University of Mysore, in which Danish Government awarded a 4.5 crore grant and established the network research and training centres in China Agriculture University, China, Nepal, Vietnam, Bangladesh and Tanzania in South Africa. Based on the results it can be conferred that Prof. S.R. Niranjana, is one of the highly cited biotechnologist serve as a motivator for younger researchers to emulate.

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